poses of illustration and description. They are not targeted to be exhaustive or to limit the embodiments to the precise forms disclosed. It will be apparent to one of ordinary skill in the art that many modifications and variations are possible in view of the above teachings.

What is claimed is:

1. A wearable device, comprising:
a frame configured to attach the wearable device to a user;
a self-mixing interferometry sensor mounted to the frame and configured to emit a beam of light; and
a command interpreter configured to receive a self-mixing interferometry signal from the self-mixing interferometry sensor; wherein:
the frame is configured to direct the beam of light toward a head of the user;
the self-mixing interferometry signal includes skin deformation information; and
the command interpreter is configured to identify a command encoded in the skin deformation information.

2. The wearable device of claim **1**, wherein the skin deformation information includes skin vibration information.

3. The wearable device of claim **2**, wherein the wearable device is an earbud further comprising:
a microphone; and
an in-ear speaker; and wherein:
the self-mixing interferometry sensor directs the beam of light toward a location in an ear of the user; and
the command interpreter identifies a voiced command of the user using the skin vibration information.

4. The wearable device of claim **2**, wherein:
the wearable device is an eyeglasses set;
the self-mixing interferometry sensor is mounted to an arm of the eyeglasses set and directs the beam of light toward a location proximate to a temporal bone of the user; and
the command interpreter identifies a voiced command of the user based on the skin vibration information.

5. The wearable device of claim **1**, wherein the skin deformation information includes temporomandibular joint movement information.

6. The wearable device of claim **5**, wherein:
the wearable device is a headphone;
the self-mixing interferometry sensor directs the beam of light toward a location on the user's head proximate to a temporomandibular joint of the user; and
the command interpreter identifies the temporomandibular joint movement information as a silent gesture command of the user.

7. The wearable device of claim **5**, wherein:
the wearable device is a visual display headset;
the self-mixing interferometry sensor is a first self-mixing interferometry sensor;
the beam of light is a first beam of light;
the self-mixing interferometry signal is a first self-mixing interferometry signal;
the first self-mixing interferometry sensor directs the beam of light toward a first location on the user's head proximate to a temporomandibular joint of the user;
the command interpreter identifies the temporomandibular joint movement information as a silent gesture command of the user;
the wearable device comprises a second self-mixing interferometry sensor that directs a second beam of light toward a second location on the user's head proximate to a parietal bone; and
the command interpreter is configured to receive a second self-mixing interferometry signal from the second self-mixing interferometry sensor; wherein:
the second self-mixing interferometry signal includes skin vibration information; and
the command interpreter is configured to identify a voiced command encoded in the skin vibration information.

8. The wearable device of claim **1**, wherein:
the beam of light is a laser light beam emitted by a laser diode;
a bias current of the laser diode is modulated with a sine wave; and
the command interpreter is configured to use a time domain I/Q analysis to identify the command encoded in the skin deformation information.

9. The wearable device of claim **1**, wherein:
the beam of light is a laser light emitted by a laser diode;
a bias current of the laser diode is modulated with a triangle wave; and
the command interpreter is configured to use a spectrum analysis to identify the command encoded in the skin deformation information.

10. A device, comprising:
a head-mountable frame configured to be worn by a user;
a self-mixing interferometry sensor mounted to the head-mountable frame and configured to emit a beam of light toward a location on the user's head;
a microphone;
a command interpreter configured to receive an output of the microphone and recognize a voiced command of the user; and
a bioauthentication circuit configured to authenticate the voiced command using a self-mixing interferometry signal of the self-mixing interferometry sensor.

11. The device of claim **10**, wherein:
the self-mixing interferometry signal includes skin deformation information;
the bioauthentication circuit is operable to:
detect, using at least the skin deformation information, that the user was speaking during a time interval of the received output of the microphone; and
authenticate the voiced command using the detection.

12. The device of claim **11**, wherein authentication of the voiced command further includes detecting a correlation of the voiced command of the user with a voice pattern detected in the skin deformation information.

13. The device of claim **10**, wherein the device is an earbud further comprising:
an in-ear speaker; and
a radio transmitter; wherein:
the device transmits the voiced command using the radio transmitter upon authentication.

14. The device of claim **10**, wherein:
the device is a headphone;
the location on the user's head is proximate to at least one of a temporal bone and a parietal bone; and
the device implements the voiced command upon authentication.